

INTERNATIONAL SEARCH REPORT

In International Application No
PCT/GB2004/002755

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/427 A61K31/4192 A61K31/4196 A61K31/433 A61P35/00
A61P31/12 A61P19/02 A61P11/06 A61P3/10 A61P17/00
A61P25/00 A61P25/28 A61P37/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, BIOSIS, EMBASE, WPI Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/34580 A (BEIGHT DOUGLAS WADE ; MCMILLEN WILLIAM THOMAS (US); LILLY CO ELI (US);) 17 May 2001 (2001-05-17) abstract page 3, line 26 - page 4, line 12 page 23, line 13 - page 31, line 9; claims 20,28; examples 1-17; table 1 page 6, line 10 - page 7, line 9	1-9, 11-14, 20,22-26
X	US 5 869 509 A (GRIBKOFF VALENTIN K ET AL) 9 February 1999 (1999-02-09) abstract column 5, line 40 - column 30, line 11 examples 11-19,21-38,40-57,61-63,65-120 claims 1-14; examples 122,126-134,136-146 ----- -/--	1-9, 11-16, 20,22-26

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

B document member of the same patent family

Date of the actual completion of the international search

26 October 2004

Date of mailing of the international search report

08/11/2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 43 20 801 A (FAHLBERG LIST PHARMA GMBH) 5 January 1995 (1995-01-05) abstract claims 1-3; examples 4,5; tables 1,2 -----	1-9,20, 22-26
X	EP 1 293 503 A (MERCK PATENT GMBH ; YAMANOUCHI PHARMA CO LTD (JP)) 19 March 2003 (2003-03-19) abstract page 3, line 41 - page 8, line 32 page 20, line 3 - page 42, line 39; examples 1-288 -----	1-9, 11-16, 20,22-26
X	EP 1 070 708 A (HOFFMANN LA ROCHE) 24 January 2001 (2001-01-24) the whole document -----	1-9, 11-16, 20,22-26
X	WO 99/64415 A (KATO TOMOKI ; PFIZER PHARMA (JP); ANDO KAZUO (JP); KAWAI AKIYOSHI (JP)) 16 December 1999 (1999-12-16) abstract page 3, line 24 - page 4, line 24; claims 1-15; examples 1-198 -----	1-4,7,8, 14-18, 20-26
X	WO 03/015777 A (GIEGRICH KRISTINA ; BAUER ULRIKE (DE); DEUSCHLE ULRICH (DE); KOGL MANF) 27 February 2003 (2003-02-27) abstract paragraphs '0014!', '0015!', '0025! - '0033! paragraph '0085!; claims 1-32; tables 3-6 -----	1-3,7-9, 11,12, 14-16, 20,22-26
X	FR 2 258 180 A (CERMOL SA) 18 August 1975 (1975-08-18) the whole document -----	1,3,8,9, 15,16, 20,22-26
X	GB 1 406 345 A (THIEMANN CHEM PHARM FAB) 17 September 1975 (1975-09-17) the whole document -----	1-3, 7-10,20, 22-26
X	WO 01/34198 A (BEIGHT DOUGLAS WADE ; MCMILLEN WILLIAM THOMAS (US); TEICHER BEVERLY AN) 17 May 2001 (2001-05-17) the whole document -----	1-14, 22-26
X	WO 99/40088 A (DIMENSIONAL PHARM INC) 12 August 1999 (1999-08-12) abstract page 5, line 16 - page 6, line 10; example 196 ----- -/-	1-3,7-9, 14,15, 20,22-26

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 489 598 A (CONNOR DAVID T ET AL) 6 February 1996 (1996-02-06) column 2, lines 5-12; examples 1-61	1-9, 11, 12, 14-16, 20, 22-26
X	WO 01/07436 A (BURNS CHRISTOPHER J ; CHOI SLEDESKI YONG MI (US); LAU WAN F (US); PAUL) 1 February 2001 (2001-02-01) abstract; example 1201 page 395, line 1 - page 397, line 14	1-3, 7-9, 15, 20, 22-26
X	FEVIG JOHN M ET AL: "Synthesis and SAR of benzamidine factor Xa inhibitors containing a vicinally-substituted heterocyclic core" BIOORGANIC AND MEDICINAL CHEMISTRY LETTERS, vol. 11, no. 5, 12 March 2001 (2001-03-12), pages 641-645, XP002301746 ISSN: 0960-894X the whole document	1-6, 8, 11, 17, 19, 21, 24-26
P, X	WO 03/101985 A (AMGEN INC ; NGUYEN THOMAS (US); NORMAN MARK H (US); WANG HUI-LING (US)) 11 December 2003 (2003-12-11) abstract page 33, line 1 - page 36, line 27; claims 1, 15-39; example 42	1-4, 7-9, 14-16, 20, 22-26
P, X	WO 03/104207 A (MERCK & CO INC ; OLSON STEVEN H (US); ZHU YUPING (US); BALKOVEC JAMES) 18 December 2003 (2003-12-18) abstract page 5, line 16 - page 16, line 21 page 58, line 1 - page 60, line 3; claims 1-29; examples 3-15	1-9, 11, 12, 15, 16, 20, 22-26
P, X	WO 2004/030611 A (GIRARDET JEAN-LUC ; HERNANDEZ MARTHA A DE LA ROSA (US); GUNIC ESMIR (U)) 15 April 2004 (2004-04-15) abstract page 3, lines 18-28; tables 2, 4	1-3, 5-9, 11-16, 20, 22-26

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claim 22 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claim 22 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box II.2

Claims Nos.: -

There are two claims 17 and no claim 20. For the purposes of the search report, the second claim number 17 has been considered as claim number 18, the claim 18 has been considered as claim 19, claim 19 has been considered as claim 20.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

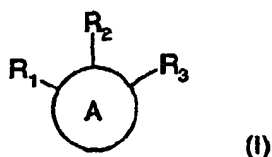
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Box No: IV Text of the abstract (Continuation of item 5 of the first sheet)

Compound of a compound of formula (I) or a salt, N-oxide, hydrate or solvate thereof, in the preparation of a composition for inhibition of HSP90 activity:



wherein ring A is an aromatic or non-aromatic carbocyclic or heterocyclic ring having 5 ring atoms, for example a 1,2,3-triazolyl or a 1,2,4-triazolyl or a tetrazolyl ring; and R₁, R₂, R₃ are as defined in the specification are inhibitors of HSP90 and therefore of use in the treatment of, for example, cancers, viral disease, inflammatory diseases such as rheumatoid arthritis, asthma, multiple sclerosis, Type I diabetes, lupus, psoriasis and inflammatory bowel disease; cystic fibrosis, angiogenesis-related disease such as diabetic retinopathy, haemangiomas, and endometriosis; or for protection of normal cells against chemotherapy-induced toxicity; or diseases where failure to undergo apoptosis is an underlying factor; or protection from hypoxia-ischemic injury due to elevation of Hsp70 in the heart and brain; scrapie /CJD, Huntingdon's and Alzheimer's disease.

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0134580	A	17-05-2001	AU 1761001 A BR 0015482 A CA 2391230 A1 CN 1387518 T EP 1263743 A1 JP 2003513962 T MX PA02004646 A WO 0134580 A1 US 6797723 B1 US 2004198779 A1	06-06-2001 25-06-2002 17-05-2001 25-12-2002 11-12-2002 15-04-2003 02-09-2002 17-05-2001 28-09-2004 07-10-2004
US 5869509	A	09-02-1999	US 6077861 A US 6271249 B1 AU 711736 B2 AU 4067997 A BR 9710793 A CN 1226803 A , B CZ 9900321 A3 EP 0915856 A1 HU 0000063 A2 JP 2000516925 T KR 2000029735 A NO 990428 A NZ 334403 A PL 331385 A1 RU 2175319 C2 TW 467902 B WO 9804135 A1 ZA 9706554 A	20-06-2000 07-08-2001 21-10-1999 20-02-1998 17-08-1999 25-08-1999 16-06-1999 19-05-1999 29-01-2001 19-12-2000 25-05-2000 29-01-1999 29-09-2000 05-07-1999 27-10-2001 11-12-2001 05-02-1998 25-01-1999
DE 4320801	A	05-01-1995	DE 4320801 A1	05-01-1995
EP 1293503	A	19-03-2003	AU 5676901 A BR 0110961 A CA 2409819 A1 EP 1293503 A1 HU 0302415 A2 NO 20025517 A SK 16242002 A3 US 2003216385 A1 CN 1429215 T CZ 20023763 A3 WO 0187855 A1 PL 359340 A1 ZA 200210245 A	26-11-2001 29-06-2004 18-11-2002 19-03-2003 28-11-2003 18-11-2002 01-04-2003 20-11-2003 09-07-2003 12-03-2003 22-11-2001 23-08-2004 18-03-2004
EP 1070708	A	24-01-2001	EP 1070708 A1 AT 257827 T AU 773463 B2 AU 4865100 A BR 0003075 A CA 2314009 A1 CN 1281852 A DE 60007697 D1 DK 1070708 T3 ES 2211420 T3 HR 20000482 A1 HU 0002792 A2	24-01-2001 15-01-2004 27-05-2004 25-01-2001 13-03-2001 21-01-2001 31-01-2001 19-02-2004 10-05-2004 16-07-2004 30-06-2001 28-09-2001

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 International Application No
 PCT/GB2004/002755

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1070708 A		ID 26599 A	25-01-2001
		JP 2001064263 A	13-03-2001
		NO 20003723 A	22-01-2001
		NZ 505766 A	28-03-2002
		PL 341616 A1	29-01-2001
		SG 98422 A1	19-09-2003
		TR 200002097 A2	21-02-2001
		US 6265426 B1	24-07-2001
		ZA 200003680 A	22-01-2001
WO 9964415 A	16-12-1999	AT 267196 T	15-06-2004
		AU 3841499 A	30-12-1999
		DE 69917451 D1	24-06-2004
		DK 1086097 T3	09-08-2004
		EP 1086097 A1	28-03-2001
		WO 9964415 A1	16-12-1999
		JP 2002517496 T	18-06-2002
		PT 1086097 T	31-08-2004
		US 2003225064 A1	04-12-2003
		US 2004157824 A1	12-08-2004
		US 2002045654 A1	18-04-2002
WO 03015777 A	27-02-2003	EP 1285914 A1	26-02-2003
		WO 03016280 A1	27-02-2003
		EP 1423370 A1	02-06-2004
		EP 1423111 A1	02-06-2004
		EP 1423113 A1	02-06-2004
		WO 03016288 A1	27-02-2003
		WO 03015771 A1	27-02-2003
		WO 03015777 A1	27-02-2003
		US 2003187042 A1	02-10-2003
		US 2003149087 A1	07-08-2003
		US 2003130296 A1	10-07-2003
FR 2258180 A	18-08-1975	CH 577985 A5	30-07-1976
		DE 2460664 A1	24-07-1975
		FI 750026 A	22-07-1975
		FR 2258180 A1	18-08-1975
		JP 50101356 A	11-08-1975
GB 1406345 A	17-09-1975	DE 2250343 A1	18-04-1974
		BE 805838 A1	01-02-1974
		FR 2202692 A1	10-05-1974
		NL 7313957 A ,B,	16-04-1974
		NL 7610797 A	31-01-1977
WO 0134198 A	17-05-2001	AU 1916601 A	06-06-2001
		WO 0134198 A2	17-05-2001
WO 9940088 A	12-08-1999	AT 223408 T	15-09-2002
		AU 765072 B2	11-09-2003
		AU 2666599 A	23-08-1999
		CA 2321025 A1	12-08-1999
		DE 69902754 D1	10-10-2002
		DE 69902754 T2	07-08-2003
		EP 1054886 A1	29-11-2000
		JP 2002502852 T	29-01-2002
		NZ 506507 A	29-08-2003

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PCT/GB2004/002755

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9940088 A		US 6562840 B1 WO 9940088 A1 US 6291514 B1 US 2001031781 A1	13-05-2003 12-08-1999 18-09-2001 18-10-2001
US 5489598 A	06-02-1996	NONE	
WO 0107436 A	01-02-2001	AU 1923300 A AU 773227 B2 AU 6462800 A BG 106340 A BR 0013179 A CA 2382755 A1 CN 1420882 T CZ 20020323 A3 EE 200200045 A EP 1208097 A2 HR 20020076 A2 HU 0203375 A2 WO 0107436 A2 JP 2003529531 T JP 2003508353 T MX PA02000888 A NO 20020214 A PL 354998 A1 SK 1182002 A3 TR 200200225 T2 WO 0032590 A1 US 2004102450 A1 ZA 200200543 A	19-06-2000 20-05-2004 13-02-2001 31-10-2002 02-04-2002 01-02-2001 28-05-2003 15-05-2002 16-06-2003 29-05-2002 31-12-2003 28-12-2002 01-02-2001 07-10-2003 04-03-2003 30-07-2002 02-04-2002 22-03-2004 06-11-2002 21-06-2002 08-06-2000 27-05-2004 23-06-2003
WO 03101985 A	11-12-2003	US 2003229068 A1 WO 03101985 A1	11-12-2003 11-12-2003
WO 03104207 A	18-12-2003	WO 03104208 A1 WO 03104207 A2 US 2004048912 A1 US 2004106664 A1	18-12-2003 18-12-2003 11-03-2004 03-06-2004
WO 2004030611 A	15-04-2004	WO 2004030611 A2	15-04-2004